Independent claims 1 and 16 recite that the "width of each slit is in a range from 0.2 to 1 mm, and a length of each slit is from 1 mm to a length which is the shorter of (a)30 mm and (b) 1/2 of a length of the honeycomb structure." The Office Action asserts that Hijikata discloses the recited slits, but acknowledges that Hijikata does not disclose the recited dimensions for the slits.

Instead the Office Action asserts that the dimensions of the slits are a "result effective variable" that could have been optimized through routine experimentation by one of ordinary skill in the art, based on the disclosures of Tomita.

However, the dimensions of the slits are not result effective variables for three reasons. First, the variations of both the width and length of the slit constitutes two separate variables, which is contrary to the doctrine of a result effective variable. Second, Tomita does not disclose that the variations to the length of the slit achieve a recognized result. Third, the specification of Hijikata discloses the intended general dimensions of the alleged slits, and thus negates any presumption that one of ordinary skill in the art would have tried to optimize the dimensions of the alleged slits of Hijikata in a different manner. These three reasons are discussed separately below.

First, MPEP 2144.05(II)(B) states that "a particular parameter must first be recognized as a result-effective variable, i.e. a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation" (emphasis added). As such, a result effective variable must be a single parameter, which can be easily optimized through routine experimentation.

Claims 1 and 16 recite separate and distinct requirements for both the length and width of the recited slits. Furthermore, the instant specification discloses different reasons (i.e. different recognized results) for the recited limits of the width and the length of the slits. For example, paragraph [0025] of the instant specification explains that the width of the slits

is chosen based on the efficiency of the trapping collecting properties of the slit. By contrast, paragraph [0026] of the specification explains that the length of the slit is chosen based on structural considerations.

As such, the dimensions of the slits cannot be a result effective variable, as asserted by the Office Action, because the dimensions constitute more than a single variable. Thus, it would not have been obvious to optimize the dimensions of the slit under the result effective variable doctrine.

Second, even if each the width and length are treated as two separate result effective variables, the rejection still lacks merit because the Office Action fails to demonstrate both relate to recognized results. As discussed above each variable (i.e. width and length) is chosen based on a different intended result. However, the cited portion of Tomita, which allegedly discloses the fact that the dimensions could be optimized through routine experimentation, only discusses the issue of trapping particulate matter. It makes no reference to choosing the length based the structural strength of the honeycomb. As such, Tomita does not disclose that it was known in the art to vary the length of the slit to optimize structural strength.

Third, the specification of Hijikata discloses expected dimensions of the gas stream inducing channel 36 (the alleged slits). These expected dimensions negate any presumption that one of ordinary skill in the art would have tried to optimize the dimensions of the alleged slits of Hijikata to optimize non-disclosed properties.

Hijikata discloses that the gas stream inducing channels 36 are formed by "removing the inner walls 31 and outer peripheral walls 32 near the sealed portion 34 in the through holes 33 in the sealed line. See col. 4, lines 14-20 of Hijikata. Furthermore, Hijikata discloses that the outer peripheral wall at one end of the gas stream-introducing hole 36 is preferably not removed. See Figs. 3 and 7 of Hijikata. Based on this description, the width of

the individual gas stream inducing channels 36 formed to be <u>equal to the inner width of the cells</u>. This can be seen in Fig. 3 of Hijikata, in which the channels 36 are clearly as wide as the cells behind them.

Furthermore, col. 7, lines 30-60 of Hijikata detail how the gas stream inducing channels are used to collect particulates. Rather than using narrow slits to trap particulates, an auxiliary pulse gas stream peels off particulates heaped on the inner walls of the gas flow holes 36. This is a substantially different method of trapping particulates than is disclosed in the instant application and Tomita.

Thus, in light of the disclosed wide channel 36, and the differing method of operation, one of ordinary skill in the art would not have thought it obvious to try and optimize the channels of Hijikata to far narrower proportions to trap particulates, in the manner described in Tomita.

Therefore, for at least the above reasons we believe the applied references fail to disclose or suggest that the width of each slit is in a range from 0.2 to 1 mm, and a length of each slit is from 1 mm to a length which is the shorter of (a)30 mm and (b) 1/2 of a length of the honeycomb structure, as recited in claims 1 and 16. Thus, withdrawal of the rejection of claims 1 and 16, and claims 2, 4-15, and 17-21 depending therefrom, is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 2 and 4-21 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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